

FERMILAB
ACCELERATOR DIVISION
MECHANICAL SUPPORT DEPARTMENT

TEV Devices Vacuum Certification Procedure

SPECIFICATION #

1341 -ES-296006

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VACUUM CRITERIA FOR DEVICES TO BE INSTALLED IN THE WARM STRAIGHTS OF THE TEVATRON

Devices which are to be installed in the warm straight sections of the Tevatron, must be in the hands of the installer (Tevatron warm straight supervisor) at least two weeks prior to the scheduled installation date. Included with the devices are the appropriate drawings, bill of materials (MSDS sheets), and performance specifications. This is a prearranged time so that the installer can prepare for the devices for a pre-installation check out which includes pump down, bake out, leak check, and sometimes an RGA analysis.

Devices to be installed must meet the following criteria:

1. The device must be able to be baked to a temperature of at least 100 degrees Centigrade.
2. The device must reach 1×10^{-8} Torr in a 3 day period, using the same ion pumps as it would use in the Tevatron, and blanked off in a manner which represents conditions in the Tevatron.
3. The device must be checked dimensionally to conform with a supplied assembly drawing, to make sure that there are no interferences in the installation process.

Any exceptions to the above conditions will have to have a variance sign be the Accelerator Division Head or his designee.

It is recommended that a knowledgeable designee representing the devices, discuss the design of the devices with a representative from the Mechanical Support Department in the pre-fabrication stage. This will eliminate a lot of problems and make the final check out go much smoother for all concerned.

Where experiments are to be installed in the accelerator complex, all requests and communications shall be conducted between the experimenter spokesperson, and the experimenter liaison physicist in the Accelerator Division.

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Tev devices vacuum certification form is used to keep records on devices installed in the Tev warm straight. It keeps track of:

- a) The type of device.
- b) Any drawing numbers assigned.
- c) What group built and originated the device.
- d) The date the certification took place.
- e) The final pressure reading after the prescribed bake with one 30 L/S ion pump and ion gauge.
- f) How long it took to pump down.
- g) Who did the baking and leak checking.
- h) The location in the Tev where it will be installed and date installed.
- i) How the pressure in system reads after installing device.
- j) The signature of the proper authority to say it is certified and it can be installed.

This form is kept by the TEV Warm Straight Group that is in charge of the particular warm straight.

Tev Devices Vacuum Certification Form

Device:

Drawing No.:

Identification No.:

Owner/Grp.:

Date Certified:

Final Pressure:

Elapsed IP Pumping Time:

Pump Attached to Sys.:

Bake Temperature:

Certified by:

Leak Checked by:

Baked by:

Ring Installation Location:

Date Installed:

System Pressure After Installation:

Approved for Warm Straight Installation: _____ Yes _____ No

Approved for Warm Straight w/ Separators: _____ Yes _____ No

Notations:
